

On-Line Co-Teaching Modules: Lessons in Preparing Mentor Teachers and Teacher Candidates

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Abstract: This paper is a report on the findings of a study that analyzed existing data surrounding the use and evaluation of an on-line training module focused on preparing mentor teachers and their teacher candidates for the challenges associated with the co-teaching model that Arizona State University's Mary Lou Fulton Teachers College utilizes. After completing the training, both mentor teachers and teacher candidates were asked to fill out a short evaluation of the training. This was analyzed in order to gauge how effective mentor teachers and teacher candidates feel the on-line module is in preparing them for the year-long co-teaching experience they are about to embark upon.

Introduction

Preparing teachers to face the many challenges that occur in the classroom (students from economically disadvantaged families, classrooms with cultural, linguistic, and academic diversity, pressure from high stakes testing, etc.) is of the utmost importance. This is particularly true as existing literature has shown that teachers new to the classroom can vary in their range of skills and experience, with those who are underprepared unlikely to stay (Gardner, 2005; Hobson, Ashby, Malderez, & Tomlinson, 2009; Levine, 2006). In addition, a lack of well-prepared teachers, particularly in economically disadvantaged communities, is often blamed for achievement gaps that currently exist throughout the country (Milgrom-Elcott, 2011).

While the effects of ill prepared new teachers can be highly problematic to the educational system, recent literature also notes how well prepared new teachers can be extremely positive. More prepared teachers are over twice as likely to remain in the classroom (Gardner, 2005), thus reducing the financial costs to districts for recruiting, training, and replacing staff members. The benefits from well-prepared teachers extend also to the learning that takes place in the classroom as research has shown that student learning increases with teacher experience (Darling-Hammond & Baratz-Snowden, 2007). Therefore, the need to better prepare new teachers for the classroom is vital and should start in the colleges of education, in their teacher preparation programs.

The Role of the Senior Year Residency Co-Teaching Model

In order to better prepare new teachers, many teacher preparation programs have added the requirement of their student teachers to practice teaching in the field. At Arizona State University, it is required graduates complete a one year teaching internship and a one year teaching residency where they co-teach with a veteran teacher in the classroom. Previous research that looked at programs where graduates reported feeling better prepared than their peers and were highly rated by their employers found that strong mentoring was a common theme among the programs rated highest (Darling-Hammond & Baratz-Snowden, 2007). This research also noted that supervisory support from a mentor should include coaching and modeling effective practices (Darling-Hammond & Baratz-Snowden, 2007), all of which are expected within the iTeachAZ program that all Arizona State University Teachers

College graduates complete.

Because teacher candidates spend so much time working with and observing their mentor teachers, it is not surprising to find that they often rank mentor teachers as the greatest influencers on their developing values and beliefs as a teacher (Darling-Hammond & Baratz-Snowden, 2007). In a different survey of secondary English teacher candidates, respondents noted that the practices of the mentor teacher were the factors that had the greatest influence (Tighe, 1991) on them. Additionally, research shows that more competent teachers and a desire to stay in the field results from well delivered mentoring (Gardner, 2005). Unfortunately, often times, many teacher preparation programs fail to clearly define the role of the mentor or prepare them to shape the teacher candidate in key components of the teacher preparation program (Abell, Dillon, Hopkins, McInerney, & O'Brien, 1995; Browne 1992; NCATE 2010).

In order to fully engage mentor teachers and clearly define the role everyone will play in the co-teaching model, the teachers college at ASU created an online training module for both the mentor teachers and the teacher candidates to complete on the expectations of their roles within the senior year residency program, as Rowley (1999) suggests that mentors must be provided with a detailed picture of the role they will play in order for them to commit to that role completely.

The Role of the Online Mentor Training Module

In response to the need to provide mentor teachers with specifics surrounding their role in the co-teaching model so they can fully commit to supporting their teacher candidates in their quest to become more competent and capable beginning teachers, the teachers college at ASU created an in-depth training program to be delivered through an online module. The module contained information about: ASU's teacher preparation program, training on the tools associated with evaluating the teacher candidate's abilities, explicit instruction on planning for and implementing the various co-teaching models, and training on how to coach an adult learner. All this was created with the goal of preparing mentor teachers and teacher candidates to be successful in implementing the co-teaching model.

In addition to the online module, several discussion boards, videos and handouts and the evaluation of the module are all housed in the same location. These additional resources are provided as research has found that successful online professional development often includes several different types of interactive pieces (Tracey et al., 2002). The decision to house the module online was made due to the many innovative benefits that existing research supports including: convenience, flexibility, sustainability, and community.

The Study

In order to gauge the effect of the online training module in preparing mentor teachers to support and nurture their teacher candidates, existing data was analyzed. The existing data comes from the online training module evaluation which all mentor teachers and teacher candidates are required to complete. From the existing data set, the dummy variable for the respondent's role was created in order to compare the responses of the two groups (teacher candidate or mentor teacher).

From the dummy role variable, frequencies and cross tabulations were run on the evaluation of the module's ability to make them feel prepared for the co-teaching experience and the evaluation of the module's ease of use. In addition, a one-way analysis of variance was run in order to determine significance, with role as the independent variable and the 9 online module evaluation variables (9 for mentor teachers, 8 for teacher candidates as one variable only applied to mentor teachers) were used as dependent variables. In this way, a more comprehensive evaluation is possible rather than relying solely on one variable to evaluate the entire module. While the current study focuses on an evaluation of a particular module developed to aid in training for the co-teaching experience, it is important to note that ongoing research into the effectiveness of other approaches continues as well and will be addressed in future research on the topic. Here, the interest is in learning how to best implement the on-line training approach and disseminating that knowledge for other practitioners' use.

Results

Evaluation of the On-Line Module Overall

In general, 34.6% of those in the sample were mentor teachers while 65.4% were teacher candidates, which would make sense as there are more teacher candidates in a program than mentor teachers. In many cases, one mentor teacher will have more than one teacher candidate in a semester or academic year due to dual certification programs that require teacher candidates to complete one semester in two different classrooms. Overall, the evaluations of the online module were extremely positive along all evaluative variables. As seen in Table 1, more than 9 out of 10 respondents “agree” or “strongly agree” that they understand the roles and responsibilities of the teacher candidate, mentor teacher, and site coordinator; feel prepared to implement co-teaching strategies, understand how the teacher candidate will be evaluated and feel prepared to apply coaching strategies to support the development of teacher candidates (mentor teachers only) after completing the online training module.

	Count	Valid Percent
I understand the roles and responsibilities of the Teacher Candidate, Mentor Teacher and Site Coordinator		
Strongly Disagree/Disagree	3	0.2%
Neutral	4	0.3%
Strongly Agree/Agree	1440	99.5%
I feel prepared to implement co-teaching strategies		
Strongly Disagree/Disagree	17	1.2%
Neutral	11	0.8%
Strongly Agree/Agree	1411	98.1%
I understand how Teacher Candidates will be evaluated		
Strongly Disagree/Disagree	4	0.3%
Neutral	10	0.7%
Strongly Agree/Agree	1427	99.0%
(Mentor Only) I feel prepared to apply coaching strategies to support the development of my Teacher Candidate		
Strongly Disagree/Disagree	4	0.8%
Neutral	0	0.0%
Strongly Agree/Agree	483	99.2%

Table 1: Frequency of responses evaluating module preparation

In addition, the evaluative variables surrounding the ease of use of the module were also very positive. Again, well over 9 in 10 respondents “agree” or “strongly agree” that it was easy to download handouts, view presentations and videos, post to the discussion board, and locate resources needed. Only in one area did the module receive a problematic review and that was in the ease to access technical support. This is seen in Table 2 below as only 69.4% of respondents said this was easy.

	Count	Valid Percent
It was easy for me to download the handouts		
Strongly Disagree/Disagree	33	2.3%
Neutral	48	3.3%
Strongly Agree/Agree	1368	94.4%
It was easy for me to view presentations and videos		
Strongly Disagree/Disagree	31	2.1%
Neutral	33	2.3%
Strongly Agree/Agree	1385	95.6%
It was easy for me to post to the discussion board.		
Strongly Disagree/Disagree	14	1.0%
Neutral	44	3.0%
Strongly Agree/Agree	1391	96.0%
It was easy for me to locate the resources I needed for the course.		
Strongly Disagree/Disagree	33	2.3%
Neutral	57	3.9%

Strongly Agree/Agree	1359	93.8%
It was easy for me to access technical support.		
Strongly Disagree/Disagree	12	0.8%
Neutral	432	29.8%
Strongly Agree/Agree	1005	69.4%

Table 2: Frequency of responses evaluating module ease of use

Evaluation of the On-Line Module by Role of Respondent

As noted earlier, the ability of the online module to prepare participants for the co-teaching model seems to exist. However, when broken down by role, clear differences arise between mentor teacher and teacher candidate responses. As seen in Table 3, while all evaluative preparation variables were extremely positive, there were a few differences. This can be seen as 97.6% of teacher candidates reported they “agree” or “strongly agree” that they feel prepared to implement co-teaching strategies while 99.0% of their mentor teachers reported the same. In two of the three preparations evaluative terms, mentor teachers said they “agree” or “strongly agree” more than their teacher candidates. Teacher candidates only report they “agree” or “strongly agree” more than their mentor teachers in response to the item “I understand the roles and responsibilities of the Teacher Candidate, Mentor Teacher and Site Coordinator.”

	Overall		Mentor Teacher		Teacher Candidate	
	Count	Valid %	Count	Valid %	Count	Valid %
I understand the roles and responsibilities of the Teacher Candidate, Mentor Teacher and Site Coordinator	1440	99.5%	496	99.2%	944	99.7%
I feel prepared to implement co-teaching strategies	1411	98.1%	488	99.0%	923	97.6%
I understand how Teacher Candidates will be evaluated	1427	99.0%	492	99.2%	935	98.9%
(Mentor Only) I feel prepared to apply coaching strategies to support the development of my Teacher Candidate	483	99.2%	483	99.2%	--	--

Table 3: Cross-tab of module preparation evaluation by role of respondent (strongly agree/agree responses only)

In regards to the module’s ease of use, much larger differences existed when responses were broken down by role of respondent. While 97.0% of teacher candidates said they “agree” or “strongly agree” it was easy to download handouts, only 89.4% of mentor teachers said the same. This is the largest percentage gap between groups on any variable, as mentor teachers were 7.6 percentage points lower in agreeing it was easy to download handouts. Mentor teachers also struggled in posting to the discussion boards as 92.0% said they “agree” or “strongly agree” it was easy to do so, while 98.1% of teacher candidates said it was easy. In addition, mentor teachers struggled in locating resources they needed for the course. While 94.5% of teacher candidates “agree” or “strongly agree” this was easy, mentor teachers were 2 percentage points lower (92.4%). Finally, while all respondents struggled to access technical support, more teacher candidates “agree” or “strongly agree” it was easy to access (71.4%) than their mentor teachers (65.5%).

	Overall		Mentor Teacher		Teacher Candidate	
	Count	Valid %	Count	Valid %	Count	Valid %
It was easy for me to download the handouts	1368	94.4%	448	89.4%	920	97.0%
It was easy for me to view presentations and videos	1385	95.6%	481	96.0%	904	95.4%
It was easy for me to post to the discussion board	1391	96.0%	461	92.0%	930	98.1%
It was easy for me to locate the resources I needed for the course	1359	93.8%	463	92.4%	896	94.5%

It was easy for me to access technical support	1005	69.4%	328	65.5%	677	71.4%
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Table 4: Cross-tab of module ease of use evaluation by role of respondent (strongly agree/agree responses only)

Significance of the On-Line Module by Role of Respondent

As seen in Table 5, an ANOVA indicates significant differences in evaluations for the module based upon respondents' role. While significance was found in only one variable, the differences amongst the other 3 terms are still interesting. Responses by mentor teachers (M=4.62, SD=.570) to the statement "I feel prepared to implement co-teaching strategies" were significantly higher than those of their teacher candidates (M=4.49, SD=.595) $F(1, 1437)=16.994, p<.01$. This makes sense as noted above that overall, mentor teachers said they "agree" or "strongly agree" more often with this statement than their teacher candidates did, this shows that difference is significant. While the responses for "I understand how the Teacher Candidate will be evaluated" were not significant, they do approach significance, with mentor teachers (M=4.69, SD=.540) once again slightly more positive in their agreement with this than their teacher candidates (M=4.64, SD=.507) $F(1, 1439)=3.208, p>.05$.

Additionally, Table 5 shows significant differences were found in 4 of the 5 ease of use variables, including "It was easy for me to download the handouts", "It was easy for me to post to the discussion board", "It was easy for me to locate the resources I needed for the course," and "It was easy for me to access technical support." In regards to ease of downloading handouts, teacher candidates (M=4.76, SD=.568) reported more positive evaluations than their mentor teachers (M=4.51, SD=.887) $F(1,1447)=43.667, p<.01$. This was significant as $p<.01$ on this ease of use term. Teacher candidates (M=4.81, SD=.463) also reported more positive evaluations for ease of posting to the discussion boards than their mentor teachers (M=4.62, SD=.707) $F(1, 1447)=37.953, p<.01$. Again, this was highly significant as $p<.01$.

Once again, teacher candidates (M=4.68, SD=.667) had higher evaluations in locating resources they needed for the course than their mentor teachers (M=4.57, SD=.755) $F(1, 1447)=8.836, p<.01$. And yet again, this difference in evaluation is highly significant as $p<.01$ on this term. Lastly, when looking at ease of accessing technical assistance, in addition to the other ease of use terms, teacher candidates (M=4.29, SD=.906) once more reported more positive evaluations than their mentor teachers (M=4.13, SD=.941) $F(1, 1447)=10.402, p<.01$. These findings align with earlier reported figures that show teacher candidates "agree" or "strongly agree" more often than mentors in almost every ease of use term. It is in Table 5 that we see these differences are largely significant.

	N	Mean	Standard Deviation	F	(p)
I understand the roles and responsibilities of the Teacher Candidate, Mentor Teacher and Site Coordinator.				.641	.424
Mentor Teacher	500	4.78	.497		
Teacher Candidate	947	4.80	.407		
I feel prepared to implement co-teaching strategies.				16.994	.000**
Mentor Teacher	493	4.62	.570		
Teacher Candidate	946	4.49	.595		
I understand how Teacher Candidates will be evaluated.				3.208	.074
Mentor Teacher	496	4.69	.540		
Teacher Candidate	945	4.64	.507		
(Mentor Only) I feel prepared to apply coaching strategies to support the development of my Teacher Candidate.					
Mentor Teacher	487	4.66	.558		
Teacher Candidate	--	--			
It was easy for me to download the handouts.				43.677	.000**
Mentor Teacher	501	4.51	.887		
Teacher Candidate	948	4.76	.568		
It was easy for me to view presentations and videos.				.134	.715
Mentor Teacher	501	4.71	.662		
Teacher Candidate	948	4.72	.629		
It was easy for me to post to the discussion board.				37.953	.000**
Mentor Teacher	501	4.62	.707		

Teacher Candidate	948	4.81	.463		
It was easy for me to locate the resources I needed for the course.				8.836	.003**
Mentor Teacher	501	4.57	.755		
Teacher Candidate	948	4.68	.667		
It was easy for me to access technical support.				10.402	.001**
Mentor Teacher	501	4.13	.941		
Teacher Candidate	948	4.29	.906		

*Note: *indicates significant as p<.05 and ** indicates significant as p<.01*

Table 5. ANOVA examining module evaluations by role of respondent

Conclusions

While overall evaluations of the online co-teaching preparation module are extremely positive, it is important to note that in a few areas, the module excels at preparing mentor teachers slightly more than teacher candidates. In fact, teacher candidates said they “agree” or “strongly agree” slightly less than their mentor teachers in response to feeling prepared to implement co-teaching strategies and understanding how they will be evaluated. This may be due to the fact that mentor teachers are more likely to have experience co-teaching and are thus more confident in their abilities. Either way, it is an area of the module that can be developed further.

It is also important to keep in mind the ways in which interacting with the technology of the online module may affect evaluations. This is particularly true since mentor teachers reported significantly lower evaluations of the module in the ease of use terms. Not only did mentor teachers say they “agree” or “strongly agree” less than teacher candidates in 4 of the 5 ease of use terms, these differences were found to be significant in those same 4 of 5 areas as well. In the one area that mentor teachers said they “agree” or “strongly agree” more than their teacher candidates, the ANOVA showed there were no significant differences and thus may simply be due to random chance rather than any real technological barriers that may have caused a reliable difference in opinion to occur. Keeping this in mind, future implementations of the module will have to address the technology issues that may arise when delivering training online and offer adequate access to technical support if/when issues arise.

Future Research

While more research into the effectiveness of the online training module is necessary, so are updates to address issues in preparing both mentor teachers and teacher candidates for the co-teaching model in order to maximize our ability to produce well-equipped new teachers for the classroom. Future research should organize around how best to administer the training module. For example, several teacher candidates noted in their additional comments items surrounding this issue such as: “I think it would be helpful to actually do this training with my mentor teacher, allowing us to discuss issues and insights before I teach,” and “If there was a way to communicate with my mentor teacher throughout the workshop.”

In addition, future research should address the interactive aspect of the module. Because several respondents noted issues in the ease of use of the module (i.e.: unable to access handouts, difficulty printing out parts of the handbook, etc.) a deeper look into the complexities of delivering mandatory trainings online needs to take place in order to accommodate as many different learning preferences and individual technology barriers as possible. By doing so, it may be possible to increase the effectiveness of the module in general and, hopefully, prepare both mentor teachers and teacher candidates for the co-teaching model and result in more prepared first-year teachers completing the program. Even simple research into how effective the module is in comparison to other forms of training or no training at all would shed further light on the development of the module as well.

Lastly, more research into the value of the junior year intern training module needs to occur in order to better understand the combined possible effects of both modules on teacher candidates. Are junior teacher interns who complete their separate module the year before better prepared senior year residency teacher candidates overall? Is the junior year intern teacher module effective on its own in preparing junior year intern teachers and mentor teachers for their experiences? This data is being collected and analysis similar to that of the senior year residency module is needed in order to assure mentor teachers are fully prepared to support their teacher candidates in their quest to become well-prepared new teachers upon graduation.

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